

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,048	03/05/2002	Thomas W. Kuehnel	14531.146	7793
47973	7590	11/03/2004	EXAMINER	
WORKMAN NYDEGGER/MICROSOFT 1000 EAGLE GATE TOWER 60 EAST SOUTH TEMPLE SALT LAKE CITY, UT 84111			APPIAH, CHARLES NANA	
			ART UNIT	PAPER NUMBER
			2686	

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/092,048

Applicant(s)

KUEHNEL ET AL.

Examiner

Charles Appiah

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/9/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claim 1, 3, 4, 6, 8 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by **Nelson et al. (6,377,218)**.

Regarding claim 1, Nelson discloses a radio module for use by one or more devices in a wireless network, the radio module comprising: an antenna module (200) that is an integral part of the radio module (200), a baseband module that performs demodulation and decoding on signals received over the antenna module and that modulates and encodes signals transmitted through the antenna module (see col. 4, lines 51-55), an interface circuit (210, 220, 230 and 240) that provides an interface between the baseband module, the antenna module and a host device (see col. 4, lines

51-55), and a physical interface (100) that detachably connects the radio module with the host device (see col. 3, line 60 to col. 4, line 16).

Regarding claim 3, Nelson further discloses wherein the interface circuit further comprises a host interface module (see col. 4, lines 17-33).

Regarding claim 4, Nelson further discloses wherein the host interface module comprises one of: USB interface, an Ethernet interface, and an IEEE 1394 interface (see col. 3, lines 50-59, col. 4, lines 17-33).

Regarding claim 6, Nelson further discloses wherein the interface circuit further comprises a wireless data link layer module (see col. 4, lines 51-55).

Regarding claim 8, Nelson's single bus comprising a cable (see col. 4, lines 17-33), as illustrated in Fig. 2, shows the physical interface comprises a cable that permits the radio module to be optimally positioned within the wireless network.

Regarding claim 10, Nelson discloses a radio module for use with each device in a wireless network such that communication occurs between the wireless devices over the wireless network (see Figs. 1 and 2), the radio module comprising: an antenna module (205) that is an integral part of the radio module (200), an interface circuit (210, 220, 230 and 240), for logically connecting the antenna module with a host device (computer system 120) wherein the interface circuit includes a baseband module that demodulates and decodes signals received over the antenna module and that modulates and encodes signals transmitted through the antenna module (see col. 4, lines 51-55), a physical interface (100) for detachably connecting the radio module with the host device (see col. 4, lines 17-33), and a cable (see col. 3, lines 38-59), that

Art Unit: 2686

supports the logical connection between the interface circuit and the host device through the physical interface, wherein the cable permits the radio module to be flexibly positioned within the wireless network (see col. 3, line 60 to col. 4, line 16).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Nelson (6,377,218)**.

Regarding claim 5, discloses a host interface for connection of the peripheral component to a host device (see Fig. 1) and that a computer system's functionality is dramatically enhanced by connecting it to a network, another computer or a device (see col. 1, lines 15-42), but fails to explicitly teach wherein the host interface module provides store and forward capabilities. However, examiner maintains that the concept of a host interface having store and forward capabilities for the exchange of signals between a host device and another device it is connected to is well known in the art and as such examiner takes Official Notice that it would have been obvious to one of ordinary skill in the art to provide for an interface with buffering capabilities in order to exchange files and share information as taught by Nelson

Art Unit: 2686

5. Claims 2, 11, 14-18, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nelson et al (6,377,218)** in view of **Funk et al. (6,026,119)**.

Regarding claims 2 and 11, Nelson meets all limitations as applied to claims 1 and 10 above but fails to specifically teach wherein the radio module receives power from a host device through the physical interface.

Funk discloses a wireless packet data communications modem, which can be used in conjunction with a computer to provide access to other computer users wherein the host device shares a power source with the communications modem (see col. 3, lines 26-28, col. 4, line 64 to col. 5, line 7).

It would therefore have been obvious to one of ordinary skill in the art to combine the shared power source system of Funk with Nelson's peripheral component system as this would reduce circuit components in the radio module.

Regarding claim 11, Nelson fails to disclose wherein power to the radio module is supplied through the physical interface.

Regarding claims 14 and 15, Nelson meets all limitations as applied above to claim 10. Nelson further discloses wherein the radio module further comprises a processor, wherein the processor performs processing required by the interface circuit (see link controller 220 and micro controller 230, Fig 2), wherein processing not performed by the processor occurs on the host device (see col. 2, lines 44-53), but fails to explicitly teach the radio module having a memory.

Funk discloses a wireless packet data communications modem, which can be used in conjunction with a computer to provide access to other computer users

Art Unit: 2686

wherein the radio module has a memory and processing capability (see EEPROM as illustrated in Fig. 4).

It would therefore have been obvious to one of ordinary skill in the art to provide the memory and processing capability of Funk's radio module to Nelson's peripheral component in order to ensure the capability of storing information required for transmission and reception of data as well as the other information for the proper exchange of data with the wireless network.

Regarding claim 16, Nelson discloses a radio module that can be flexibly positioned within a wireless network to improve performance of the radio module, the radio module comprising: an antenna module including an antenna (205), an interface circuit (210, 220, 230 and 240), wherein the interface circuit includes a baseband module, a data link control module, and a physical layer module (see col. 4, lines 17-33, lines 51-55), a processor (link controller 220 and micro-controller 230), wherein the processor provides processing requirements for the interface circuit on the signals that are received and broadcast over the wireless network (see col. 4, lines 51-55), a protocol link (see col. 4, lines 61-66), and a physical interface including a cable that detachably connects with a host device (see col. 3, line 38 to col. 4, line 16).

Nelson fails to explicitly teach the radio module having a memory.

Funk discloses a wireless packet data communications modem, which can be used in conjunction with a computer to provide access to other computer users wherein the radio module has a memory and processing capability (see EEPROM as illustrated in Fig. 4, col. 3, lines 13-42, col. 5, lines 8-15).

It would therefore have been obvious to one of ordinary skill in the art to provide the memory and processing capability of Funk's radio module to Nelson's peripheral component in order to ensure the capability of storing information required for transmission and reception of data as well as the other information for the proper exchange of data with the wireless network.

Regarding claim 17, Nelson fails to specifically teach wherein the radio module receives power from a host device.

Funk discloses a wireless packet data communications modem, which can be used in conjunction with a computer to provide access to other computer users wherein the host device shares a power source with the communications modem (see col. 3, lines 26-28, col. 4, line 64 to col. 5, line 7).

It would therefore have been obvious to one of ordinary skill in the art to combine the shared power source system of Funk with Nelson's peripheral component system as this would reduce circuit components in the radio module.

Regarding claim 18, Nelson further discloses wherein the protocol link is one of IEEE 1394, and USB (see col. 4, lines 17-33).

Regarding claim 19, Nelson further discloses wherein the physical interface is one of an IEEE 1394 and USB (see col. 3, lines 50-59, col. 4, lines 17-33).

Regarding claim 20, Nelson's bus 100 as illustrated in Fig. 2, permits the radio module to be flexibly positioned with a wireless network.

Art Unit: 2686

6. Claims 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nelson** as applied to claims 1 and 10 above, and further in view of **Ikegami (6,393,032)**.

Regarding claim 7, Nelson fails to teach a wireless media access control module.

In an analogous filed of endeavor, Ikegami discloses a wireless LAN system that includes a wireless terminal having a MAC for managing frame transmissions as well modem switching (see col. 8, lines 8-43 and Fig. 5).

It would therefore have been obvious to one of ordinary skill in the art to include a MAC module in Nelson's peripheral device in order to manage transmission of frames to and from the device including modem control as taught by Ikegami.

Regarding claims 12 and 13, Nelson further discloses wherein the interface circuit comprises one or more of: a host interface module that forms a logical interface between the host device and the radio module, a data link control interface that performs at least error control for the host device (see col. 4, lines 17-33), but fails to disclose a media access control module that manages a bi-directional bitstream between the host device and the antenna module.

In an analogous filed of endeavor, Ikegami discloses a wireless LAN system that includes a wireless terminal having a MAC for managing frame transmissions as well modem switching (see col. 8, lines 8-43 and Fig. 5).

It would therefore have been obvious to one of ordinary skill in the art to include a MAC module in Nelson's peripheral device in order to manage transmission of frames to and from the device including modem control as taught by Ikegami.

7. Claims 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nelson** as applied to claims 1 and 10 above, and further in view of **Todd et al. (6,035,183)**.

Regarding claim 9, Nelson fails to specifically disclose a user interface that indicates to a user when the radio module is optimally positioned within the wireless network, wherein the flexible cable permits the user to re-position the radio module within the wireless network until the user interface indicates that the radio module is optimally positioned.

Todd discloses a system and method for a fixed wireless access terminal to determine and display to a user signal quality information such that user can adjust the location of the access terminal for optimized signal reception (see col. 4, lines 18-67 and col. 5, lines 28-64).

It would therefore have been obvious to one of ordinary skill in the art to incorporate the link quality determination and indication feature of Todd into the system of Nelson in order to provide optimal signal quality indication for desired quality communications.

8. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nelson and Funk et al** as applied to claim 20 above, and further in view of **Gendel et al. (6,127,936)**.

Regarding claims 21 and 22 Nelson as modified by Funk fails to specifically teach a user interface that indicates when the radio module is optimally positioned within the wireless network wherein the user interface comprises LEDs

Gendel discloses an apparatus for providing a visual and/or audible indication of a quantity such as received signal strength to user (see col. 1, lines 38-63 and col. 4, lines 8-29), wherein the visual indicator may comprise a single LED (see col. 2, lines 15-17, lines 53-56 and col. 5, lines 12-45). According to Gendel, the system is very useful during installation to check the integrity of the system as well as finding the optimal location or point for best signal quality reception in a desired area (see col. 1, lines 28-35, col. 5, lines 46-54).

It would therefore have been obvious to one of ordinary skill in the art to incorporate the quality determination and indication feature of Gendel into the system of Nelson in order to provide signal quality indication for desired optimal location determination as taught by Gendel.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Feder et al. 6,438,363) discloses a system for aligning a unit for proper forward link communications in a wireless environment.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Appiah whose telephone number is 703 305-4772. The examiner can normally be reached on M-F 7:30AM-5:00PM.

Art Unit: 2686

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 703 305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CA


CHARLES APPIAH
PRIMARY EXAMINER